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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,830	06/26/2003	Himansu M. Gajiwala	2507-5300.1US (21870-US-0)	7592
60794	7590	04/25/2006	EXAMINER	
TRASKBRITT, P.C. P.O. BOX 2550 SALT LAKE CITY, UT 84110			RONESI, VICKEY M	
			ART UNIT	PAPER NUMBER
			1714	
DATE MAILED: 04/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/608,830

Applicant(s)

GAJIWALA, HIMANSU M.

Examiner

Vickey Ronesi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7, 8, 14, 15 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 8, 14, 15 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/2006 has been entered.

2. All outstanding rejections are withdrawn in light of applicant's amendment filed 2/22/2006.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

### ***Claim Objections***

4. Claims 7 and 14 are objected to because the phrase "at least one additive selected from the group consisting of at least one antioxidant, at least one cure accelerator, at least one cure activator, at least one tackifier, at least one plasticizer, and mixtures thereof" contains redundant terminology. In particular the "at least one of" at the beginning of the phrase and the "and mixtures thereof" at the end of the phrase represent the same thing. Deletion of one of them is suggested. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7, 8, 14, 15, and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claims 7 and 14, the transitional phrase "consisting of" is considered to be new matter since this phrase fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the phrase "consisting of" in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. In particular, the use of "consisting of" excludes curing agents, a necessary ingredient in order to cure the present inventive composition. See Tables 1 and 8 which list insulation material ingredients, wherein sulfur (i.e., curing agent) is included.

With respect to claims 8, 14, and 20, they are rejected for being dependent on a rejected claim.

In the interest of compact prosecution, the following prior art rejections are given. Note that Herring '841 includes a curing agent which is technically outside of the scope of the instant claims which excludes a curing agent by use of "consisting of," however, it is not known how a diene rubber composition could be cured without a curing agent of some kind, especially since applicant's own inventive examples have a curing agent.

***Claim Rejections - 35 USC § 103***

6. Claims 7, 8, 14, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,501,841) in view of Trask et al (US 4,726,987).

Herring '841 discloses elastomeric insulating materials for rocket motors (col. 2, lines 35-37) comprising crosslinkable elastomeric polymers such as EPDM (col. 3, lines 28-32); polyaramide pulp, i.e., polymeric organic filler, which is used to advantageously promote the formation of a strong, adherent char during propellant burning (col. 2, lines 38-48); organic and inorganic flame retardants (col. 4, lines 1-14); and a peroxy crosslinking agent (see Table C in col. 5). Method of insulating rocket motors is provided in col. 6, lines 33-58. While Herring '841 does not teach cure accelerator or cure activator, it is considered that these additives are quite common in crosslinking and would be suitably utilized by one of ordinary skill in the art.

Herring '841 does not explicitly disclose any other polymeric filler as a char-former but it does not exclude the substitution or the additional use of other similar materials.

Trask et al discloses a fire-retardant article and teaches about the benefits of a variety of polymeric fibers for use in fire-retardant articles. In particular, Trask et al teaches that a aramid fibers like utilized by Herring are advantageous for char formations that act as a thermal barrier (col. 2, lines 19-22) and that polyphenylene sulfide is also a char former with outstanding chemical resistance, thermal stability, and fire resistance like the polyimides (col. 2, line 61 to col. 3, line 2) and that halogenated polymers like polyvinylchloride are advantageous in fire-retardant applications due to its two-stage degradative process (col. 3, lines 18-28).

Given that polyphenylene sulfide and polyvinylchloride are advantageously used with or as substitutes for a char-former such as polyaramide fibers as taught by Trask et al, it would have

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been obvious to one of ordinary skill in the art to utilize a polyphenylene sulfide or polyvinylchloride as a char-former in the rocket motor insulation of Herring '841. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

7. Claims 7, 8, 14, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,501,841) in view of Trask et al (US 4,726,987) and further in view of Herring '431 (US 4,878,431).

The discussion with respect to Herring '841 and Trask et al in paragraph 6 above is incorporated here by reference.

Neither Herring '841 nor Trask et al teaches the use of an antioxidant, a cure accelerator, a cure activator, a tackifier, or a plasticizer in a rocket motor insulation composition.

Herring '431 discloses elastomeric insulating materials for rocket motors, like Herring '841, and teaches the suitability of tackifiers and plasticizers to enhance the composition (col. 5, lines 47-51). Additionally, like Herring '841, Herring '431 exemplifies the use of a peroxy crosslinking agent with an accelerator (col. 5, line 68) and antioxidants (Table 9 bridging cols. 13 and 14).

Given that Herring '431 discloses the suitability and desirability of tackifiers, plasticizers, accelerators, and antioxidants in rocket motor insulation compositions, it would have been

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obvious to one of ordinary skill in the art to utilize any of these enhancement-providing additives to the rocket motor insulation composition of Herring '841.

8. Claims 7, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,878,431) in view of Whelan (US 4,246,359).

Herring '841 discloses elastomeric insulating materials for rocket motors (col. 2, lines 35-37) comprising crosslinkable elastomeric polymers such as EPDM (col. 3, lines 28-32); polyaramide pulp, i.e., polymeric organic filler, which is used to advantageously promote the formation of a strong, adherent char during propellant burning (col. 2, lines 38-48); organic and inorganic flame retardants (col. 4, lines 1-14); and a peroxy crosslinking agent (see Table C in col. 5). Method of insulating rocket motors is provided in col. 6, lines 33-58. While Herring '841 does not teach cure accelerator or cure activator, it is considered that these additives are quite common in crosslinking and would be suitably utilized by one of ordinary skill in the art.

Herring teaches the use of flame retardant additives such as chlorinated organic compounds with antimony oxide or hydrated alumina (col. 4, lines 41-55), however, it does not teach the use of a polymeric organic compound such as polyvinyl chloride or polyvinylidene chloride. Although Herring exemplifies the use of a chlorinated hydrocarbon as the organic compound, note that it does not restrict the use of other chlorinated organic compounds.

Whelan discloses a flame retardant for hydrocarbon diene rubbers comprising a synergistic combination of a halogen containing organic compound such as polyvinyl chloride and polyvinylidene chloride, alumina trihydrate, and an iron oxide (col. 1, line 66 to col. 2, line 6). Whelan teaches that the halogen-containing organic compound may be non-polymeric or

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polymeric, including chlorine-containing polymers, e.g., polyvinyl chloride (col. 3, line 19-25) and that the selection of the appropriate halogen containing organic compound should be consistent with the target physical properties of the finished composition (col. 3, lines 25-33). Note that the polyvinyl chloride and polyvinylidene chloride of Whelan read on the organic filler of the present invention and not the organic flame retardant.

Therefore, absent a showing of surprising and unexpected results, it is the examiner's position that it would have been well within the capabilities of one of ordinary skill in the art to utilize an appropriate chlorinated compound in Herring, including those polymeric organic compounds within the scope of the present claims, and thereby arrive at the presently cited claims. Should applicant argue criticality of a polymeric organic compound in the inventive composition, it will be noted that applicant's comparative data provides no probative value to support to such an assertion.

9. Claims 7, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herring '841 (US 4,501,841) in view of Whelan (US 4,246,359) and further in view of Herring '431 (US 4,878,431).

The discussion with respect to Herring '841 and Whelan in paragraph 8 above is incorporated here by reference.

Neither Herring '841 nor Whelan teaches the use of an antioxidant, a cure accelerator, a cure activator, a tackifier, or a plasticizer in a rocket motor insulation composition.

Herring '431 discloses elastomeric insulating materials for rocket motors, like Herring '841, and teaches the suitability of tackifiers and plasticizers to enhance the composition (col. 5,



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lines 47-51). Additionally, like Herring '841, Herring '431 exemplifies the use of a peroxy crosslinking agent with an accelerator (col. 5, line 68) and antioxidants (Table 9 bridging cols. 13 and 14).

Given that Herring '431 discloses the suitability and desirability of tackifiers, plasticizers, accelerators, and antioxidants in rocket motor insulation compositions, it would have been obvious to one of ordinary skill in the art to utilize any of these enhancement-providing additives to the rocket motor insulation composition of Herring '841.

#### *Response to Arguments*

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection.

#### *Contact Information*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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4/20/2006

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